

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Original) A method for molding an optical lens, comprising the steps of:

- a. providing a mold having two molding shells disposed on edge and substantially vertically oriented, and an annular closure member having an outer surface disposed at the periphery of the molding shells cooperating with the two molding shells to define a molding cavity having a center, a vertical axis and a horizontal axis perpendicular thereto, both axes passing through the center to thereby divide the mold into an upper portion and a lower portion, a venting opening and a casting port disposed at the upper portion of the mold and spaced apart from each other at an acute angle, wherein the venting opening is in fluid communication with the ambient air and the molding cavity, and the casting port is separated from the ambient air by the outer surface of the closure member and in fluid communication with the molding cavity;
- b. introducing a fluid lens-forming material into the molding cavity through the casting port;
- c. curing the fluid lens-forming material so that the fluid lens-forming material is hardened to form the optical lens; and
- d. removing the optical lens from the molding cavity.

Claim 2. (Original) The method of claim 1, wherein the venting opening is located at or adjacent the upper most point of the molding cavity.

Claim 3. (Original) The method of claim 1, wherein the position of the casting port is lower than the position of the venting opening at the molding cavity.

Claim 4. (Original) The method of claim 1, wherein the closure member is in the form of a gasket containing the molding shells therein.

Claim 5. (Original) The method of claim 1, wherein the closure member is in the form of a sleeve disposed around the molding shells.

Claim 6. (Original) The method of claim 1, wherein the fluid lens-forming material is a monomer.

Claim 7. (Original) A method for molding an optical lens, comprising the steps of:

- a. providing a mold having two molding shells disposed on edge and substantially vertically oriented, and an annular closure member disposed at the periphery cooperating with the two molding shells to define a molding cavity which has a center, a vertical axis and a horizontal axis perpendicular to each other, both axes passing through the center to thereby divide the mold into an upper portion and a lower portion, a venting opening disposed at the upper portion of the mold and communicating with the molding cavity;
- b. injecting a fluid lens-forming material into the molding cavity through a port at a position at the upper portion of the mold but apart from the location of the venting opening at acute angle, wherein the port is separated from the ambient air by the outer surface of the closure member;
- c. curing the fluid lens-forming material so that the fluid lens-forming material is hardened to form the optical lens; and
- d. removing the optical lens from the molding cavity.

Claim 8. (Original) The method of claim 7, wherein the venting opening is located at or adjacent the upper most point of the molding cavity.

Claim 9. (Original) The method of claim 7, wherein the fluid lens-forming material is a monomer.

Claim 10. (Original) The method of claim 7, wherein the closure member is in the form of a sleeve disposed around the molding shells.

Claim 11. (Original) The method of claim 10, wherein the sleeve is formed from an elastomeric material.

Claim 12. (Original) The method of claim 11, wherein the step of injecting the fluid lens-forming material further comprises the steps of: a. piercing the elastomeric sleeve through the port by a filling needle; and b. injecting the fluid lens-forming material into the cavity through the filling needle.

Claim 13. (Original) The method of claim 7, wherein the closure member is in the form of a gasket containing the molding shells therein.

Claim 14. (Original) A method for molding an optical lens, comprising the steps of:

a. providing a mold having two molding shells disposed on edge and substantially vertically oriented, and an annular closure member having an outer surface disposed at the periphery cooperating with the two molding shells defining a molding cavity with a center and having a vertical axis and a horizontal axis perpendicular to each other, both axes passing through the center thereby dividing the mold into an upper portion and a lower portion, a venting opening and a plurality of casting openings disposed at the upper portion of the mold and spaced apart from each other, the venting opening and each of the casting openings forming an acute angle between them, the venting opening and the plurality of casting openings communicating with the molding cavity, wherein at least one of the plurality of casting openings is a port being separated from the ambient air by the outer surface of the closure member;

b. introducing a fluid lens-forming material into the molding cavity through a casting opening;

c. curing the fluid lens-forming material so that the fluid lens-forming material is hardened to form the optical lens; and

d. removing the optical lens from the molding cavity.

Claim 15. (Original) The method of claim 14, wherein the venting opening is located at or adjacent the upper most point of the molding cavity.

Claim 16. (Original) The method of claim 14, wherein the position of each casting opening is lower than the position of the venting opening at the molding cavity.

Claim 17. (Original) The method of claim 14, wherein the closure member is in the form of a sleeve disposed around the molding shells.

Claim 18. (Original) The method of claim 17, wherein the sleeve is made from an elastomeric material.

Claim 19. (Original) The method of claim 14, wherein the casting openings are substantially identical to each other.

Claim 20. (Original) The method of claim 14, wherein the casting openings are substantially symmetrical about the venting opening.

Claim 21. (Original) The method of claim 14, wherein the closure member is in the form of a gasket containing the molding shells therein.

Claim 22. (Original) An apparatus for molding an optical lens, comprising:

- a. a front mold and a back mold; and
- b. a closure member having an outer surface and cooperating with the front mold and the back mold to form a molding cavity therebetween for molding the optical lens, wherein the closure member has at least one venting opening and at least one casting port spaced apart from each other at an acute angle at an upper portion of the molding cavity, the venting opening being in fluid communication with the molding cavity and the ambient air and the casting port being in fluid communication with the molding cavity and separated from the ambient air by the outer surface of the closure member.

Claim 23. (Original) The apparatus of claim 22, further comprising means for substantially vertically positioning the molds so that the at least one venting opening is located at or adjacent the upper most point of the molding cavity.

Claim 24. (Original) The apparatus of claim 22, wherein the closure member is a gasket.

Claim 25. (Original) The apparatus of claim 22, wherein the closure member is a sleeve.

Claim 26. (Currently Amended) The apparatus of claim 25, wherein the sleeve is made of an elastomeric material selected from the group of polyurethane, polyvinyl chloride, organosilicon elastomer and thermoplastic rubbers containing a styrene-ethylene-propylene (butylene) block copolymer KRATON® G.

Claim 27. (Original) An improvement in an apparatus for molding an optical lens of the type having a pair of opposed molding shells disposed on edge and substantially vertically oriented and which form a molding cavity therebetween with a closure member having an outer surface, the molding cavity having a center, a vertical axis and a horizontal axis perpendicular to each other, a casting port being separated from the ambient air and communicating with the cavity for the introduction therethrough into the cavity a fluid lens-forming material and a venting opening communicating into the cavity, the improvement comprising:

the venting opening being disposed at the upper most point of the molding cavity,
where the vertical axis intersects the closure member, the venting opening
and the casting port forming an acute angle therebetween at an upper
portion of the molding cavity.

Claim 28. (Original) An apparatus for molding an optical lens, comprising:

- a. a front mold and a back mold; and
- b. a closure member having an inner surface and an outer surface and cooperating with the front mold and the back mold to form a molding cavity therebetween for molding the optical lens, wherein the closure member has at least one venting opening and at least one casting port spaced apart from each other at an acute angle at an upper portion of the molding cavity, the venting opening and the casting port being connected by a recess channel located at the inner surface.

Claim 29. (Original) The apparatus of claim 28, wherein the casting port is in fluid communication with the molding cavity and separated from the ambient air by the outer surface of the closure member.

Claim 30. (Original) The apparatus of claim 28, wherein the closure member is a gasket.

Claim 31. (Original) The apparatus of claim 28, wherein the closure member is a sleeve.

Claim 32. (Currently Amended) A strip for molding a lens ~~in cooperation with a front mold and a back mold~~, comprising:

- a. a body having a first end and to a second end, and an inner surface and an opposed outer surface, wherein the body of the strip is adapted to be wrapped around edges of a front mold and a back mold to form a sleeve cooperating with the front mold and the back mold to define a molding cavity; and
- b. a recess channel formed on the inner surface.

Claim 33. (Original) The strip of claim 32, wherein the recess channel is formed on the inner surface continuously, extending from the first end to the second end.

Claim 34. (Original) The strip of claim 32, wherein the recess channel is formed on the inner surface discontinuously.

Claim 35. (Original) The strip of claim 32, wherein the strip is made from a plastic film.

Claim 36. (Original) The strip of claim 35, wherein the plastic film is nonadhesive.

Claim 37. (Currently Amended) The strip of claim 35, wherein the plastic film comprises an elastomeric material selected from the group of polyurethane, polyvinyl chloride, organosilicon elastomer, KRATON® G, and thermoplastic rubbers containing a styrene-ethylene-propylene (butylene) block copolymer.

Claim 38. (Currently Amended) The strip of claim 35, wherein the plastic film has a thickness in the range of 1.0 millimeter and 8.0 millimeters millimeter.

Claim 39. (Canceled)

Claim 40. (Currently Amended) A sleeve for molding a lens in cooperation with a front mold and a back mold, comprising:

- a. a body portion having a first end and a second end, an inner surface and an opposed outer surface, a bore extending from the first end to and the second end axially;
- b. a venting port formed through on the body portion to interconnect the inner portion and the outer portion;
- c. a casting port formed on the body portion and positioned apart from the venting port; and
- d. a recess channel formed on the inner surface connecting the venting port and the casting port.

Claim 41. (Currently Amended) The sleeve of claim 40, wherein the recess channel extends continuously from the venting port to and the casting port.

Claim 42. (Original) The sleeve of claim 40, wherein the bore is sized to receive the front mold and the back mold to define a molding cavity.

Claim 43. (Currently Amended) A sleeve for molding a lens in cooperation with a front mold and a back mold, comprising:

- a. a body portion having a first end and a second end, an inner surface and an opposed outer surface, a bore extending from the first end to the second end axially and sized to receive a front mold and a back mold to define a molding cavity;
- b. a venting port formed on the body portion;
- c. a casting port formed on the body portion and positioned apart from the venting port; and
- d. a recess channel formed on the inner surface connecting the venting port and the casting port, The sleeve of claim 42,

wherein the casting port is formed intermediate the outer surface of the body portion and the bore such that the casting port is separated from the ambient air by the outer surface of the body portion and is in fluid communication with the molding cavity.

Claim 44. (New) A method for filling a mold, comprising:

- a. providing a mold having two molding shells and an annular closure member circumscribing the molding shells to define a molding cavity having a center, the closure member defining a venting opening in fluid communication with ambient air and the molding cavity and defining a casting port in fluid communication with the molding cavity;
- b. orienting the molding shells substantially upright so that a horizontal axis passing through the center of the mold divides the mold into an upper portion and a lower portion and so that the venting opening and the casting port are located in the upper portion and spaced apart from each other at an acute angle; and
- c. introducing a fluid lens-forming material into the molding cavity through the casting port.

Claim 45. (New) The method of claim 44, further comprising, after introducing the fluid lens-forming material, curing the lens-forming material so that the material is substantially hardened to form an optical lens.

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Claim 46. (New) The method of claim 45, further comprising, after curing the lens-forming material, removing the optical lens from the molding cavity.

Claim 47. (New) The method of claim 44, wherein when the molding shells are oriented substantially upright, the venting opening is located at or adjacent the upper most point of the molding cavity.

Claim 48. (New) The method of claim 44, wherein when the molding shells are oriented substantially upright, the position of the casting port is below the venting opening.

Claim 49. (New) The method of claim 44, wherein the closure member is a gasket that receives the molding shells therein.

Claim 50. (New) The method of claim 44, wherein the closure member is a sleeve disposed around the molding shells.

Claim 51. (New) The method of claim 44, wherein the fluid lens-forming material is a monomer.

Claim 52. (New) A molding apparatus, comprising:

- a. a front mold and a back mold; and
- b. a closure member circumscribing the front and back molds to define a molding cavity having a center, wherein when the front and back molds are disposed substantially upright, a horizontal axis passing through the center divides the molding cavity into an upper portion and a lower portion, wherein the closure member defines a venting opening therethrough and a spaced-apart casting port, wherein the venting opening and the casting port are located in upper portion of the molding cavity and are oriented at an acute angle to each other.

Claim 53. (New) The molding apparatus of claim 52, wherein the closure member has an inner surface defining a recess channel and wherein the venting opening and the casting port are connected by the recess channel.

Claim 54. (New) The molding apparatus of claim 52, wherein when the front and back molds are disposed substantially upright, the venting opening is located at or adjacent the upper most point of the molding cavity.

Claim 55. (New) The molding apparatus of claim 52, wherein the closure member is a gasket.

Claim 56. (New) The molding apparatus of claim 52, wherein the closure member is a sleeve.

Claim 57. (New) A sleeve for molding a lens, comprising:

- a. a body portion having a first end, a second end, an inner surface, an opposed outer surface, and defining a bore;
- b. a venting port formed through the body portion to interconnect the inner portion and the outer portion;

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- c. a casting port formed on the body portion and positioned apart from the venting port; and
- d. a recess channel formed on the inner surface connecting the venting port and the casting port,
wherein when the bore receives a front mold and a back mold to define a molding cavity, the venting port and the casting port form an acute angle relative to a center of the molding cavity.